

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant	:	Mason et al.)	
)	Group Art Unit: 2665
Appln. No.	:	09/627,253)	
)	Examiner: Nguyen, Toan D.
Filed	:	July 28, 2000)	
For:	:	PRESENCE REGISTRATION AND ROUTING NODE		

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal pursuant to 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-10, 22-34, 42-50, 61-66, 69-72, 75, 76, and 79 as set forth in the Office Action of April 4, 2008.

I. Real Party in Interest

The real party in interest is Tekelec, a California corporation, and the assignee of the inventors' entire interest.

II. Related Appeals and Interferences

There are no appeals or interferences, known to appellants or appellants' legal representative which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1-10, 22-34, 42-50, 61-66, 69-72, 75, 76, and 79 are pending in the subject application. Claims 1-10, 22-34, 42-50, 61-66, 69-72, 75, 76, and 79 stand finally rejected by the Office Action of April 4, 2008, and are the subject of this Appeal.

IV. Status of Amendments

Appellants received an Office Action dated April 4, 2008, finally rejecting claims 1-10, 22-34, 42-50, 61-66, 69-72, 75, 76, and 79.

No amendments have been filed in response to the April 4, 2008 Office Action.

V. Summary of Claimed Subject Matter

Independent claim 1 recites a method for updating presence information regarding a target end user managed by a presence server based on information derived from a telephony-related action. Examples of telephony-related actions described in the present specification are registration of a wireless customer in a particular cell or service area (see page 26, lines 7-18 of the present specification), the placement of a wireline telephone call (see page 27, lines 6-19 of the present specification), or the dialing of a code via a telephone keypad (see page 28, lines 3-13 of the present specification). Each of these actions results in generation of an SS7 message, which is normally used for call setup, mobility management, or a database query, depending on the message type. However, claim 1 recites a method by which such an SS7 message triggers generation of a presence registration message.

Claim 1 further recites receiving a signaling system 7 (SS7) message (Figure 8, location update message **412**, Figure 9, ISUP IAM message **428**, or Figure 10, TCAP message **448**) in response to a telephony-related action performed by a target end user (Figure 8, mobile subscriber **402**, Figure 9, wireline subscriber **422**, or Figure 10, wireline subscriber **442**) to which other end users are subscribed with the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**). One example of receipt of an SS7 message appears on page 25, line 23 through page 66, line 1 of the present specification where a location update message is received by presence registration and routing node **300** in Figure 8. A location update message may be generated when a mobile subscriber registers his or her handset with base station **404** (Figure 8).

Normally such messages are routed to the subscriber's home location register (HLR), as indicated by the location update message preceding to HLR **408** illustrated in Figure 8.

However, rather than simply routing the location update message to the HLR, claim 1 recites determining, based on the SS7 message, (Figure 8, location update message **412**, Figure 9, ISUP IAM message **428**, or Figure 10, TCAP message **448**) whether presence registration processing is required (Figure 8, mobile subscriber **402**, Figure 9, wireline subscriber **422**, or Figure 10, wireline subscriber **442**). An example of determining whether presence registration processing is required is described for ISUP messages on page 20, lines 7-16 of the present specification and for TCAP messages on page 24, line 16 through page 25, line 2 of the present specification. The location update message illustrated in Figure 8 is an example of a TCAP message that may require presence registration processing. An example of an ISUP message for which presence registration processing may be required is ISUP IAM message **428** illustrated in Figure 9. An example of a non-mobility-management TCAP message for which presence registration processing may be required is TCAP message **448** illustrated in Figure 10.

Claim 1 further recites, in response to determining that presence registration processing is required (Figure 8, mobile subscriber **402**, Figure 9, wireline subscriber **422**, or Figure 10, wireline subscriber **442**), automatically generating a presence registration message (Figure 8, registration message **416**, Figure 9, registration message **434**, or Figure 10, registration message **450**) including presence information usable by the presence server (Figure 8, presence server **410**, Figure 9, presence

server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) for automatically indicating to the end users who are subscribed to the target end user (Figure 8, mobile subscriber **402**, Figure 9, wireline subscriber **422**, or Figure 10, wireline subscriber **442**) in with the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) a presence status for the target end user (Figure 8, mobile subscriber **402**, Figure 9, wireline subscriber **422**, or Figure 10, wireline subscriber **442**). The generation of a presence registration message in response to receipt of an ISUP IAM message is described on page 22, lines 4-6 of the present specification. The generation of a presence registration message in response to receipt of a TCAP message is described on page 24, line 24 through page 25, line 2 of the present specification.

Claim 1 further recites that the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) comprises a server that manages presence information for a collection of entities and subscriptions to those entities. Claim 1 further recites transmitting the presence information to the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) over an IP network. Thus, independent claim 1 combines the concepts of deriving information from SS7 signaling and using that information to generate and send a presence registration message to a presence server.

An important concept in the presence protocol that is different from mobility management protocols used by the mobile call signaling network to track a subscriber's location is that using the presence protocol, subscribers can subscribe to another

subscriber in a presence database to receive presence status updates when the presence status of the subscribed-to entity changes. For example, as described on page 4, lines 14-24 of the present specification, the presence protocol allows an entity A to subscribe to another entity B in a presence server P. When the status of B changes, P will notify E of the change in status of B. Thus, the presence protocol includes the concept of allowing one end user to subscribe to another end user for the purpose of receiving presence status for the target end user. Independent claim 1 recites a method for updating presence information with a presence server for a target end user in response to receipt of an SS7 signaling message so that other end users who are subscribed to the end user will receive status updates when the target end user performs a telephony-related action, such as activating a mobile handset, attempting a wireline call, or dialing a special code on a wireline phone. SS7 signaling, including mobility management signaling is used to setup calls and manage subscriber location information. Heretofore, it has not been used to automatically derive presence status information for a target end user or generate a presence registration message that updates a presence status for a target end user with a presence server.

Independent claim 5 recites a method for updating presence information regarding a target end user with a presence server based on information derived from a signaling message relating to a telephony-related action performed by the target end user. The method includes receiving an SS7 signaling message (Figure 8, location update message **412**) in response to a telephony-related action performed by a target end user (Figure 8, mobile subscriber **402**). Claim 5 further recites that the telephony-related action is the activation or change in location of a mobile telephone handset and

that the SS7 message is a message for updating the status of the target end user (Figure 8, mobile subscriber **402**) in at least one of a home location register (HLR) (Figure 8, HLR **408**) and a visitor location register (VLR) (not shown in Figure 8). The receipt of the location update message by presence registration and routing node **300** is described in page 25, line 23 through page 26, line 1 of the present specification.

Claim 5 further recites intercepting the SS7 message (Figure 8, location update message **412**), extracting information from the SS7 message (Figure 8, location update message **412**) and using information extracted from the SS7 message (Figure 8, location update message **412**) to update presence information for the target end user (Figure 8, mobile subscriber **402**) with the presence server (Figure 8, presence server **410** or Figure 11, PDM **502**). Claim 5 further recites that the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities and the presence information includes information usable by the presence server (Figure 8, presence server **410** or Figure 11, PDM **502**) for automatically indicating to end users who are subscribed to the target end user (Figure 8, mobile subscriber **402**) a presence status for the target end user (Figure 8, mobile subscriber **402**). The concept of a subscriber subscribing to another subscriber in a presence database is described on page 4, lines 14-23 of the present specification. The updating of presence information in response to a message transmitted to an HLR or a VLR is described, for example, on page 26, lines 4-18 of the present specification.

Thus, independent claim 5 recites a method where a presence information update for a target subscriber is generated in response to a telephony-related action that causes generation of an SS7 message for updating the location of the subscriber in

an HLR. However, rather than simply updating the subscriber location in an HLR, the SS7 message is intercepted, information is extracted from the message, and the information is used to update presence information for the target end user in with a presence server, where the presence server is defined as an entity that manages presence information for a collection of entities and subscriptions to those entities. Claim 5 recites that the presence information includes information usable by a presence server for automatically indicating to end users who are subscribed to the target end user a presence status for the target end user. Thus, claim 5 recites the concept of subscription that is used in the presence protocol and not in mobility management protocols, which are used to track a mobile subscriber's location.

Independent claim 22 recites a presence registration and routing node (Figure 3, PRR node **300**) for updating presence information regarding an end user with a presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**). The presence registration and routing node includes a communication module (Figure 3, LIM **320**) for receiving an SS7 message relating to a target end user to which other end users are subscribed with the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) and for determining whether presence registration processing is required for the SS7 message. Two types of SS7 messages that are described in the specification as being usable for generating presence information are ISUP messages and TCAP messages. The receipt of an ISUP IAM message by LIM **320** is described on page 19 at lines 17-18 of the present specification.

The receipt of a TCAP message by LIM **320** is described on page 23, lines 13-15 of the present specification.

Claim 22 further recites a presence server message generator (Figure 3, PRM **340**) for, if the communication module (Figure 3, LIM **320**) determines that presence registration processing is required, receiving a copy of the SS7 message and for automatically generating a presence registration message including presence information usable by the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) for automatically indicating to end users subscribed to the target end user a presence status for the target end user and wherein the presence server message generator (Figure 3, PRM **340**) is adapted to forward the presence registration message to the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**). Generation of a presence registration message for a received ISUP message is described on page 21, line 25 through page 22, line 3 of the present specification. Generation of a presence registration message in response to a received TCAP message is described, for example, on page 24, line 24 through page 25, line 2 of the present specification.

Claim 22 further recites that the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities. Thus, claim 22 explicitly defines a presence server as an entity that maintains subscriptions between a target entity and other entities. SS7 signaling messages have not heretofore been associated with subscriptions in a presence server. In claim 22, the presence registration and routing node includes components that intercept and copy an

SS7 signaling message and that generate and send a presence registration message to a presence server.

Independent claim 29 recites a presence registration and routing node for updating presence information regarding an end user with a presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**). The presence registration and routing node (Figure 3, PRR node **300**) includes a communication module (Figure 3, LIM **320**) for receiving an SS7 message from an SS7 network. The receipt of an SS7 ISUP message by LIM **320** is described on page 19, lines 17-18 of the present specification. The receipt of an SS7 TCAP message by LIM **320** is described on page 23, lines 13-15 of the present specification.

Claim 29 further recites a presence server message generator (Figure 3, PRM **340**) for generating, based on the SS7 message, a presence-server-compatible message (Figure 8, registration message **416**, Figure 9, registration message **434**, or Figure 10, registration message **450**) for updating presence information regarding a target end user with a presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**). The presence information includes a presence status for the target end user. Claim 29 further recites that the presence server message generator (Figure 3, PRM **340**) is adapted to forward the presence-server-compatible message (Figure 8, registration message **416**, Figure 9, registration message **434**, or Figure 10, registration message **450**) to the presence server and that the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those

entities (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**). The forwarding of a presence-server-compatible message to a presence server database by PRM **320** in response to receiving an ISUP message is described on page 22, lines 21-22 of the present specification. The forwarding of a presence registration message generated in response to a received TCAP message to a presence database is described on page 25, lines 13-15 of the present specification.

Thus, independent claim 29 recites a presence registration and routing node that includes a communication module and a presence server message generator. The communication module receives SS7 messages. The presence server message generator generates a presence registration message in response to the received SS7 message and forwards the message to a presence server. Claim 29 expressly defines a presence server as a server that manages presence information for a collection of entities and subscriptions to those entities. As stated above, SS7 signaling messages have not heretofore been used for presence subscription. Claim 29 claims a communication module and a presence server message generator that use SS7 signaling messages to update a presence subscription maintained by a presence server.

Independent claim 42 recites a computer program product comprising computer executable instructions embodied in a computer readable medium for performing steps. The steps include receiving a signaling system 7 (SS7) message (Figure 8, location update message **412**, Figure 9, ISUP IAM message **428**, or Figure 10, TCAP message **448**) in response to a telephony-related action performed by a target end user (Figure 8,

mobile subscriber **402**, Figure 9, wireline subscriber **422**, or Figure 10, wireline subscriber **442**). Page 19, lines 17-19 of the present specification describe receipt of an ISUP IAM message by presence registration routing node **300**. Page 23, lines 13-15 describe receipt of a TCAP message by presence registration routing node **300**. Examples of telephony-related actions described in the present specification are registration of a wireless customer in a particular cell or service area (see page 26, lines 7-18 of the present specification), the placement of a wireline telephone call (see page 27, lines 6-19 of the present specification), or the dialing of a code via a telephone keypad (see page 28, lines 3-13 of the present specification).

Claim 42 further recites, in response to receiving the SS7 message (Figure 8, location update message **412**, Figure 9, ISUP IAM message **428**, or Figure 10, TCAP message **448**), formulating an Internet protocol message (Figure 8, registration message **416**, Figure 9, registration message **434**, or Figure 10, registration message **450**) for updating presence information regarding the target end user managed by a presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) for automatically indicating to end users who are subscribed to the target end user with the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) a presence status for the target end user. Generation of the presence registration messages in response to received location update messages is described on page 26, lines 7-12 of the present specification. For ISUP IAM messages, the generation of IP-based presence registration message is described on page 27, lines 1-3 of the present specification. The generation of an IP-based presence

registration message in response to a TCAP message is described on page 28, lines 9-13 of the present specification.

Claim 29 further recites that the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) comprises a server that manages presence information for a collection of entities and subscriptions to those entities. Claim 42 further recites transmitting the IP message to the presence server over an IP network.

Thus, independent claim 42 recites a computer program product that includes computer executable instructions for performing the steps of generating a presence registration message in response to a received SS7 message and sending the presence registration message to a presence server. The presence registration message includes information usable by a presence server for automatically indicating to other users subscribed to the target end user with the presence server database a presence status for the target end user. The messages transmitted to the presence server over an IP network and claim 42 explicitly defines the presence server as a server that manages information for a collection of entities and subscriptions to those entities.

Independent claim 79 recites a method for updating presence information regarding a target end user managed by a presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) based on information derived from a telephony related action. Claim 79 recites receiving a signaling system 7 (SS7) message in response to a telephony related action performed by a target end user to which other end users are subscribed with the

presence server. Claim 79 further recites that the SS7 message comprises and [sic] ISDN user part (ISUP) message. (Figure 9, ISUP IAM message **428**)

Claim 79 further recites determining, based on the SS7 message (Figure 9, ISUP IAM message **428**), whether presence registration processing is required. Claim 79 further recites, in response to determining that presence registration processing is required, automatically generating a presence registration message (Figure 8, registration message **416**, Figure 9, registration message **434**, or Figure 10, registration message **450**) including presence information usable by the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) for automatically indicating to end users who are subscribed to the target end user with the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) a presence status for the target end user. Claim 79 further recites transmitting the presence registration message (Figure 8, registration message **416**, Figure 9, registration message **434**, or Figure 10, registration message **450**) to the presence server (Figure 8, presence server **410**, Figure 9, presence server **426**, Figure 10, presence server **446**, or Figure 11, PDM **502**) over an IP network. Thus, independent claim 79 recites generating a presence registration message based on a received ISUP message and transmitting the presence registration message to a presence server over an IP network.

VI. Grounds of Rejection to be Reviewed on Appeal

The grounds for rejection for review are:

- (1) The rejection of claims 1-2, 6, 22, 23, 25, 27, 28, 30-33, 61-65, 69, 71, and 79 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,470,179 to Chow (hereinafter, "Chow") in view of U.S. Patent No. 6,181,937 to Joensuu (hereinafter, "Joensuu") further in view of applicants' admitted prior art (hereinafter, "Background Section of Applicants' Specification");
- (2) The rejection of claims 5, 29, 42, 43, 45-47, 71, and 75 under 35 U.S.C. § 103(a) as unpatentable over Chow in view of the Background Section of Applicants' Specification;
- (3) The rejection of claims 3-4, 7-10, 24, 26, 34, 66, and 70 under 35 U.S.C. § 103(a) as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of U.S. Patent No. 6,747,970 to Lamb et al. (hereinafter, "Lamb"), and
- (4) The rejection of claims 44, 48-50, 72, and 76 as unpatentable over Chow in view of the Background Section of Applicants' Specification further in view of Lamb.

VII. Arguments

A. Rejection of claims 1, 2, 22, 23, 25, 27, 28, 30-33, 61-65, 69, and 79 under 35 U.S.C. § 103(a) as unpatentable over Chow in view of Joensuu further in view of the Background Section of Applicants' Specification

i. Argument for independent claim 1

The rejection of claim 1 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed because:

- 1) Chow and Joensuu fail to mention presence servers or presence related processing at all and it would not be obvious to combine these disclosures with the Background Section of Applicants' Specification; and
- 2) Even assuming for the sake of argument that it would be obvious to combine Chow and Joensuu with the Background Section of Applicants' Specification, the combination of these documents fails to disclose, teach, or suggest all of the elements of claim 1.

As a preliminary matter, neither Chow nor Joensuu has anything to do with presence registration, presence subscriptions, or presence servers. Both Chow and Joensuu are directed to signaling that occurs in different types of wireless networks to allow free inter-neighborhood roaming in Chow (see Abstract of Chow) and to reduce mobility management signaling in cellular networks in Joensuu (see Abstract of Joensuu.) Neither document discloses a presence server or addresses a problem of updating presence information that a presence server maintains for a target end user to which other entities are subscribed. Nonetheless, the Office Action concludes:

One skilled in the art would have recognized the response to determining that presence processing is required, and would have applied the AAPAs presence server **102** in Chow et al.'s HNRP **145-1**. Therefore, it would have been obvious to one skilled in the art at the time of the invention to use the AAPA in Chow et al.'s automatic service selection feature for neighborhood residential cordless service with the motivation being performing registration and subscription services (page 2, lines 20-22). (See pages 5 and 6 of Office Action dated April 4, 2008.)

Applicants respectfully submit that it would not be obvious to combine the Background Section of Applicants' Specification with Chow or Joensuu because the Background Section of Applicants' Specification describes the conventional use of a presence server to facilitate communication among instant messaging (IM) clients, which reside on stationary personal computers. For example, the Background Section states, "when a subscriber logs into an IM service, the subscriber's software notifies a presence server or similar client based presence system that the subscriber is available to receive messages." (See page 2, lines 7-9 of the present specification.) The above-quoted passage and Figure 1 of the present specification illustrate a presence registration message generated by a subscriber's IM client, which in Figure 1 is illustrated as being a stationary computer connected to a network. A person of ordinary skill in the art of local cordless services architecture as disclosed by Chow or mobility management signaling as disclosed by Joensuu would not look to the field of presence signaling for stationary instant messaging clients as disclosed in Figure 1 of the present application because signaling for cordless and cellular networks is a different field of endeavor from presence signaling for PC-based IM clients. Stated differently, presence registration by stationary instant messaging clients as disclosed in Figure 1 of the present application does not solve the problem of how to provide fixed rate roaming between cordless networks as disclosed in Chow or reducing

unnecessary signaling in cellular networks as disclosed in Joensuu. If anything, providing IM clients as disclosed in the Background Section of Applicants' Specification would increase signaling in a network and thus teach away from the stated goal of Joensuu of avoiding unnecessary signaling in a cellular network.

Yet another reason that it would not be obvious to combine the disclosures of Chow and Joensuu with the presence registration illustrated in Figure 1 and described in the Background Section of Applicants' Specification is that all of the nodes in Chow and Joensuu on which the Office Action relies to reject claim 1 are network nodes that perform signaling functions and store information that is not accessible by subscribers. In contrast, the presence server illustrated in the Background Section of Applicants' Specification receives registration messages from IM clients and allows clients to subscribe to other clients. Such access to information would not be allowed in nodes that perform call setup operations, such as NSP **145-2** in Chow or visited mobile switching center (VMSC) **106** in Joensuu because these nodes provide critical communications functions for plural subscribers and are not directly accessible by subscribers. For example, Chow states:

Each NSP may have an associated intelligent database (ID). For example, intelligent databases associated with NSP **145-1**. The ID may store LCS subscriber profiles, which includes information regarding each LCS subscriber within DHNZ, such as subscribe features and/or calling preferences. The ID also uses information for communication with other IDs in the event the subscriber has roamed to a VNZ not handled by the associated NSP. For example, in ID **146-1**, there would exist subscriber profiles for all subscribers in neighborhood zones **115-1** and **105-1**. (See column 10, lines 23-33 of Chow.)

In the above-quoted passage, Chow indicates that the NSP stores subscriber profiles for all subscribers in a neighborhood zone. This function is similar to an HLR in a

cellular network. Due to the sensitivity of subscriber profiles, subscribers are typically not granted access to HLRs, and HLRs would not store presence information for subscribers. Similarly, it is respectfully submitted that it would likewise not be obvious to modify NSP **145-1** to include a presence server as illustrated in the Background Section of Applicants' Specification. To incorporate end-user-based IM clients as disclosed in the Background Section of Applicants' Specification in the network signaling nodes of Chow or Joensuu would subject these nodes to data integrity and denial of service problems.

Accordingly, for these reasons, it would not have been obvious to a person of ordinary skill in the art at the time the invention was made to combine disclosures of Chow and Joensuu with the Background Section of Applicants' Specification. Accordingly, it is respectfully submitted that the rejection of claim 1 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification must be reversed.

Even assuming for the sake of argument that it would have been obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification, the combination fails to disclose, teach, or suggest any of elements (a)-(d) of claim 1. Regarding element (a) of claim 1, on page 3, the Office Action states:

For claim 1, Chow et al. disclose automatic service selection feature for neighborhood residential cordless services comprising:

(a) receiving a signaling system 7 message in response to a telephony related action by a target end user to which other end users are subscribed with the presence server (Figure 1, reference H-NSP145-1) (Figure 5A, reference step (a), column 17, line 58 to column 18, line 19).

In Figure 1 of Chow, H-NSP **145-1** refers to the home network service platform, which performs roaming registration, call processing, and call handoff. (See column 9, lines 50-61 of Chow.) There is no disclosure anywhere in Chow that H-NSP **145-1** is a presence server that receives an SS7 message in response to a telephony related action performed by a target end user to which other end users are subscribed with a presence server. The only type of subscription mentioned in Chow is subscription to different wireless services. (See e.g., column 10, lines 23-33 of Chow quoted above.) There is no mention of subscribing to other subscribers. Accordingly, the above-quoted passage from the Office Action misinterprets Figure 1 of Chow as disclosing the reception of an SS7 message regarding a target end user to which other entities are subscribed with a presence server as claimed.

Regarding step (a) in Figure 5A and the corresponding description in columns 17 and 18 of Chow quoted above in the Office Action as disclosing step (a) of claim 1, Applicants respectfully submit that these portions of Chow illustrate conventional mobility management signaling that occurs when a call is directed to a mobile subscriber. For example, step (a) in Figure 5A of Chow indicates that when MSC **180** receives an ISUP IAM message for a call directed to a mobile subscriber, MSC **180** formulates and sends an IS-41 location request message to HLR **172**. HLR **172** formulates an IS-41 route request message and sends it to gateway **170**, which translates the message to an IP message for requesting a location of the called party. All of these messages are conventional mobility management signaling used in Chow to determine the location of the called subscriber and have nothing to with an entity to which others subscribed in a presence database. There is no mention in Figure 5A or

anywhere in Chow that this type of signaling is performed in response to a telephony related action performed by a target end user to which other users are subscribed with a presence server. Chow never mentions the calling subscriber that whose call generated the route request message described in columns 17 and 18, only that the call is from PSTN **100**. (See column 18, lines 59-60 of Chow.) Chow nowhere discloses that the route request message contains any information regarding the calling subscriber - rather, the message requests a route to the called subscriber. Accordingly, the route request message in Chow cannot be the SS7 message generated by the action of the target end user that triggers a presence registration message for the target end user. Because the Office Action misinterprets Chow to read on step (a) of claim 1, for this additional reason, the rejection of claim 1 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification, the rejection of claim 1 should be reversed.

Regarding step (b) of claim 1, on pages 3 and 4, the Office Action indicates that Chow fails to disclose these features but that Joensuu discloses:

(b) determining, based on the SS7 message, whether presence registration processing for the target end user (column 2, lines 24-27).

One skilled in the art would have recognized the determining, based on the SS7 message, whether presence registration processing is required for the target end user, and would have applied Joensuu's VMSC **108** in Chow et al.'s MSC **178**. Therefore it would have been obvious to a person of ordinary skill in the art to use the method for avoiding unnecessary signaling and cellular communication system in Chow et al.'s automatic service selection feature. For neighborhood residential cordless service with a motivation being to provide a location updating procedure with the HLR (column 2, lines 29-30.)

Applicants submit that the Office Action misinterprets the cited portion of Joensuu. For example, column 2, lines 24-30 of Joensuu cited in the Office Action state as follows:

In a PDC system, when the "live" VMSC receives the Location Updating Request message, it checks the Mobile Station Identity (MSI) field in the message to determine whether that MS is registered with that VMSC (i.e., the MS has a record with subscriber data maintained at that VMSC) If the MS is "new" and not registered with that VMSC, then the VMSC initiates a location updating procedure with the HLR (104).

In the above-quoted passage, PDC refers to personal digital cellular, VMSC refers to visited mobile service switching center, MS refers to mobile station, and HLR refers to home location register. A VMSC is a switch where the subscriber is registered when the subscriber is roaming. The VMSC conducts a location updating procedure when a subscriber registers the VMSC. The location updating procedure updates the HLR with the current location of the VMSC where the subscriber is registered. The type of registration referred to in this passage is location registration with an HLR. In contrast, a determination whether presence registration processing is required as recited in step (b) of claim 1 is a determination as to whether a presence registration message needs to be sent to a presence server. A registration with a presence server is unrelated to registration with an HLR. Presence registration allows other subscribers to receive updated presence status information regarding a subscriber to which the subscribers are subscribed; whereas registration with an HLR allows MSCs, which are network nodes, to locate called subscribers. The information stored in an HLR is maintained in strict confidence by network service providers and would never be delivered to end users in a network. HLRs contain confidential information about each individual subscriber's subscribed-to telecommunication services and are not accessible to end users. An HLR is not a presence server and it would not be obvious to modify an HLR

to be a presence server or include such capabilities. Making an HLR a presence server would also likely overload the HLR and prevent it from performing its intended purpose of maintaining subscriber profiles and participating in mobility management because presence servers automatically send updates to subscribing entities when the presence status of a target end user changes. In addition, Joensuu's VMSC **108** and Chow's MSC **178**, when combined as suggested in the Office Action would yield two switches, neither of which perform presence registration or determine whether presence registration processing is required. Accordingly, because the Office Action misinterprets Joensuu to read on step (b) of claim 1, for this additional reason, the rejection of claim 1 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Regarding step (c) of claim 1, on pages 4 and 5, the Office Action indicates that Chow and Joensuu do not disclose, "in response to determining whether presence registration processing is required, automatically generating a presence registration message and transmitting that message to a presence server in an IP network," but that this is disclosed in the Background Section of Applicants' Specification. This is simply incorrect. As stated above, the Background Section of Applicants' Specification discloses generation of a presence registration message by a stationary IM client when the subscriber logs on to IM service. The presence registration message is not generated based on any received message, not to mention a received SS7 message as claimed. It would not make sense to incorporate the IM client disclosed in the Background Section of Applicants' Specification in the VMSC, the MSC, the HLR, or any of the components of Joensuu or Chow because IM clients are subscriber based

entities, and the network nodes disclosed in Chow and Joensuu are network signaling entities that are not accessible by subscribers. Even assuming that it would be obvious to incorporate the IM clients in any of the network nodes of Chow and Joensuu, the result would be a network node that allows subscribers to log in to the network node and that registers itself with a presence server. For security reasons, subscribers are not permitted to log in to network nodes that perform core signaling functions and subscriber software does not reside on network nodes. Accordingly, for all the reasons above, it is respectfully submitted that the rejection of claim 1 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

ii. Argument for dependent claim 2

Claim 2 depends from claim 1. Accordingly, for the reasons stated above with regard to the rejection of claim 1, the rejection of claim 2 should be reversed.

In addition, on page 6, the Office Action indicates that Figure 5A in column 17, lines 58-61 disclose the dialing of a telephone number and the generation of an IAM message as recited in claim 2. Figure 5A and the cited portion of Chow mention an IAM message. However, there is no description in Chow that the end user that triggered the IAM message is a target end user to which other users are subscribed with a presence server. Chow only discloses that the IAM message is generated by a PSTN switch without mentioning the calling party. Accordingly, for this additional reason, the rejection of claim 2 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

iii. Argument for dependent claim 6

Claim 6 depends from claim 1. Accordingly, for the reasons stated above with regard to the rejection of claim 1, the rejection of claim 6 should also be reversed.

In addition, on page 6, the Office Action indicates that column 18, lines 11-16 of Chow disclose automatically generating a presence protocol message as recited in claim 6. Applicants respectfully disagree. Column 18, lines 11-16 of Chow state as follows:

The HLR **175-2** knows the current registration location of the min-based MS **10** because of a prior registration notification from the home zone NSP (H-NSP) **145-1** via gateway (GW) **170**. HLR **175-2** sends a SS7/TCAP/IS-41 route request (ROUTREQ) message to the H-NSP **145-1** via the GW **170** for routing instructions to the MS **10**. The GW **170** translates the message to an IP message and sends it the H-NSP **145-1** (ROUT REQ (MINNN)). This completes process steps (a).

The above-quoted passage from Chow mentions only IS-41 messages to determine a called subscriber's current location. None of the signaling messages are presence protocol messages as claimed. In addition, the signaling messages in the above-quoted passage relate to the called party, rather than the party that initiated the telephony related action in claim 1. Chow nowhere discloses that the route request message contains any information regarding the party whose action generated the route request message. Accordingly, for this additional reason, the rejection of claim 6 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

iv. Argument for independent claim 22

The rejection of independent claim 22 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed because:

1. It would not be obvious to a person of ordinary skill in the art to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification;
2. Even assuming for the sake of argument that it would have been obvious to combine the disclosures of Chow and Joensuu with the Background Section of Applicants' Specification, the combination fails to disclose, teach, or suggest all of the elements of claim 22.

As stated above with regard to the rejection of claim 1, the disclosures of Chow and Joensuu are directed to mobile mobility management signaling, whereas the Background Section of Applicants' Specification is directed to the presence protocol for stationary IM clients. Accordingly, for the same reasons stated above with regard to the rejection of claim 1, it would not be obvious to combine the disclosures of Chow and Joensuu with the disclosure and the Background Section of Applicants' Specification. For this reason, the rejection of claim 22 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

Even assuming for the sake of argument that it would be obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification, the combination fails to teach or suggest a communication module that receives an SS7 message and determines whether presence registration processing is

required and a presence server message generator that generates a presence registration message and sends the presence registration message to a presence server if the communication module determines that presence registration processing is required. As stated above with regard to the rejection of claim 1, the network nodes disclosed in Chow and Joensuu perform mobility management signaling. Presence registration signaling is not mentioned in either document. The Background Section of Applicants' Specification discloses presence registration triggered by stationary instant messaging clients. When the Background Section of Applicants' Specification is combined with the disclosures of Chow and Joensuu, the result is IM-client-based presence registration performed by a user's PC and mobility management signaling performed by network nodes. This combination fails to disclose or even remotely suggest a presence registration and routing node that includes the components recited in claim 22 for performing presence registration. Accordingly, for the reasons stated above with regard to claim 1, and, for the additional reasons stated in this paragraph, it is respectfully submitted that the rejection of claim 22 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Further, claim 22 recites that the presence server message generator receives a copy of the SS7 message and the Office Action indicates on page 6 that column 18, lines 11-16 of Chow disclose a presence server message generator that receives a copy of an SS7 message where the SS7 message relates to a target end user to which other users are subscribed with the presence server. Column 18, lines 11-16 of Chow are quoted above. As indicated above, this portion of Chow recites mobility

management signaling that is performed to locate a roaming subscriber. There is no mention of other subscribers being subscribed to the roaming subscriber in a presence server or of the copying of a message as recited in claim 22. Accordingly, for this additional reason, the rejection of claim 22 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

v. Argument for dependent claim 23

Claim 23 depends from claim 22. Accordingly, for the reasons stated above with regard to claim 22, the rejection of claim 23 should be reversed. In addition, claim 23 recites an advanced database communication module that encapsulates the presence registration message in an IP packet and transmits the IP packet to a presence server over an IP network. On page 8, the Office Action indicates that column 18, lines 17-19 of Chow disclose this element. Column 18, lines 17-19 of Chow state as follows:

GW 170 translates the message to an IP message and sends it to the H-NSP 145-1 (ROUTE REQ (MIN)). This completes process step (a).

In the above-quoted passage, the route request message is an IP-encapsulated IS-41 route request message. Chow nowhere indicates that the message is a presence registration message that contains information usable by a presence server for automatically indicating to other end users subscribed to the target end user with a presence status for the target end user. Accordingly, for this additional reason, the rejection of claim 23 should be reversed.

vi. Argument for dependent claim 25

Claim 25 depends from claim 22 and recites that the presence registration message is a presence protocol message. For the reasons stated above with regard to claim 22, it is respectfully submitted that the rejection of claim 25 should be reversed. Moreover, on page 9, the Official Action incorrectly indicates that column 18, lines 11-16 of Chow disclose that the presence registration message is a presence protocol message. As stated above with regard to the rejection of claim 6, which also recites that the presence registration message is a presence protocol message, the quoted portion of Chow discloses only mobility management messages. None of the messages are presence protocol messages. Accordingly, for this additional reason, the rejection of claim 25 should be reversed.

vii. Argument for dependent claims 27 and 28

Claims 27 and 28 depend from claim 22. Accordingly, for the same reasons stated above with regard to the rejection of claim 22, it is respectfully submitted that the rejection of claims 27 and 28 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claims 27 and 28 respectively recite that the SS7 message regarding the target end user to which other users are subscribed in a presence database is an ISUP message and a TCAP message. On page 9, the Office Action indicates that column 17, line 60 of Chow discloses an ISUP message as recited in claim 27 and that column 18, line 14 of Chow discloses a TCAP message as recited in claim 27. Column 17, line 60 of Chow discloses the generation of an ISUP message by a PSTN switch

140-3 in response to a call directed to MIN-based local cordless service subscriber. There is no mention that the calling or called subscriber is a subscriber to which other subscribers are subscribed with the presence server. Further, the calling party whose actions resulted in the generation of the ISUP message is not mentioned in Chow, and thus Chow cannot disclose generating a presence registration message for this party. Accordingly, for this additional reason, the rejection of claim 27 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

Regarding claim 28, column 18, line 14 of Chow mentions a TCAP message generated by HLR **175-2** to carry an IS-41 route request message. The TCAP message is generated for the same call described above, which is directed to the LCS subscriber. There is no mention that the LCS subscriber or the calling party is a target subscriber to which other subscribers are subscribed with a presence server. Further, the calling party whose actions resulted in the generation of the TCAP message is not mentioned in Chow, and thus Chow cannot disclose generating a presence registration message for this party. Accordingly, for this additional reason, the rejection of claim 28 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

viii. Argument for dependent claims 30-33

Claims 30-33 depend from claim 22. Accordingly, for the reasons stated above with regard to claim 22, it is respectfully submitted that the rejection of claims 30-33 as

unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 30 further recites a presence server database operatively associated with the presence server message generator for receiving the presence server compatible message and updating presence information in response to the presence server compatible message. Claims 31 and 32 respectively recite the presence server message generator is internal to and external to the presence registration and routing node. Neither Chow nor the Background Section of Applicants' Specification disclose a presence server database. On page 7, the Office Action indicates that column 2, lines 31-40 of Joensuu disclose a presence server database. Column 2, lines 31-40 of Joensuu state as follows:

The VMSC (108) invokes the location updating procedure with the HLR (104) for each "new" MS, and sends the MSI and pursuit routing number (PRN) associated with each such MS to the HLR. This information is conveyed from the VMSC to the HLR via the CCITT common channel signaling system number 7 (CC7) network signaling links in the PDC, or from the MSC/VLR to the HLR via the CCITT signaling system number 7 (SS7) network signaling links in the GSM.

The above-quoted passage fails to mention a presence server database or a presence server compatible message. Instead, the passage discloses a visited mobile switching center and an HLR, neither of which includes a presence server database. An HLR is a database that stores location information and subscription information for mobile subscribers, where the subscription information indicates subscribed-to features of each mobile subscriber. The HLR does not allow other subscribers to subscribe to a target subscriber as is the case with a presence server database. In addition, the messaging disclosed in the above-described paragraph relates to mobility management signaling

that occurs when a subscriber is roaming. There is no mention of presence server compatible messaging in the quoted passage. Accordingly, for this additional reason, the rejection of claims 30-33 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

ix. Argument for dependent claim 61

Claim 61 depends from claim 1. Accordingly, for the reasons stated above with regard to the rejection of claim 1, the rejection of claim 61 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 61 recites that the SS7 message that triggered the generation of the presence registration message is routed to its intended destination. Thus, claim 61 when combined with claim 1 indicates that an SS7 message is received and routed, and that same SS7 message triggers the generation of a presence registration message. On page 9, the Office Action indicates that column 18, lines 11-19 of Chow disclose the subject matter of claim 61. Column 18, lines 11-19 of Chow are quoted above with regard to claim 6. As stated above, this passage discloses the forwarding of an IS-41 mobility management message to its destination. If the route request message is the SS7 message of claim 61, then there is no separate presence registration message as recited in claim 1 from which claim 61 depends. The quoted passage from Chow discloses the routing of a single message to its destination. Claim 61 when read with respect to claim 1 recites two messages, i.e., the presence registration message and the original SS7 message that are sent to different places. Because the quoted

passage from lines 11-19 of Chow discloses only the forwarding of a single message to a destination, it can not possibly render obvious the subject matter of claim 61. Accordingly, for this additional reason, the rejection of claim 61 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

x. Argument for dependent claim 62

Claim 62 depends from claim 22. Accordingly, for the same reasons stated above with regard to claim 22, the rejection of claim 62 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification must be reversed.

Moreover, claim 62 recites that the communication module routes the SS7 message to its intended destination. Thus, claim 62, when read with claim 22, recites the generation of two messages, i.e., the SS7 message and the presence server compatible messages, which are sent to different destinations. On page 9, the Office Action indicates that column 18, lines 11-19 of Chow disclose the subject matter of claim 62. As stated above with regard to the rejection of claim 61, the quoted portion of Chow discloses the routing of only one message to its destination. The message changes forms from SS7 to IP, but it is the same message that is ultimately sent to the home network service platform. Because the quoted portion of Chow discloses only the forwarding of a single message and claim 62, when read with claim 22, recites the generation and forwarding of two messages to different destinations, it is respectfully submitted that the rejection of claim 62 as unpatentable over Chow in view of Joensuu

and further in view of the Background Section of Applicants' Specification should be reversed.

xi. Argument for dependent claim 63

Claim 63 depends from claim 1. Accordingly, for the reasons stated above with regard to the rejection of claim 1, it is respectfully submitted that the rejection of claim 63 as unpatentable over Joensuu and further in view of the Background Section of Applicants' Specification should be reversed. Moreover, claim 63 recites that the telephony related action performed by the target end user is the activation of the end user's mobile telephone and the presence information in the presence registration message indicates that the target end user is currently reachable to receive messaging protocol communications via the target end user's mobile telephone. On page 9, the Official Action indicates that column 18, lines 9-19 of Chow disclose the subject matter of claim 63. Column 18, lines 9-19 of Chow are quoted above with regard to the rejection of claim 6. The quoted passage from Chow discloses signaling to determine the switch where the called subscriber is currently registered. Such signaling determines only the subscriber's location and does not indicate whether the subscriber is currently reachable at that location. Moreover, claim 63 recites that the presence information indicates that the target end user is reachable to receive messaging protocol communications. The quoted passage from Chow above relates to a call, rather than a messaging protocol. Accordingly, for these reasons, the rejection of claim 63 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

xii. Argument for dependent claim 64

Claim 64 depends from claim 1. Accordingly, for the reasons stated above with regard to the rejection of claim 1, the rejection of claim 64 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 64 recites that the telephony related action that triggers the SS7 message for which presence registration is performed is the entry of a predetermined code via the target end user's wireline telephone and that the presence information indicates that the end user is currently reachable via the end user's wireline telephone. On page 10, the Office Action indicates that column 17, lines 58-66 of Chow disclose the subject matter of claim 64. Column 17, lines 58-66 of Chow relate to a call from the PSTN to a MIN-based LCS subscriber. Presumably, the only digits that would be dialed by the calling subscriber would be the called subscriber's telephone number. In addition, because the calling phone is in use, the dialing of the digits would not indicate that the calling subscriber is currently reachable via the calling subscriber's wireline telephone. Accordingly, the quoted passage from Chow teaches away from the subject matter of claim 64, and, for this reason, the rejection of claim 64 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

xii. Argument for dependent claim 65

Claim 65 depends from claim 1. Accordingly, for the reasons stated above with regard to the rejection of claim 1, the rejection of claim 65 as unpatentable over Chow in

view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 65 recites that the steps of claim 1 are performed at an SS7 signal transfer point capable of transferring SS7 signaling messages between SS7 signaling links. On page 10, the Office Action indicates that column 18, lines 9-14 of Chow disclose the subject matter of claim 65. Column 18, lines 9-14 of Chow fail to mention an SS7 signal transfer point. The only nodes mentioned are an MSC, an HLR, a home network service platform, and a gateway, none of which is described in Chow as being an SS7 signal transfer point. Accordingly, for this additional reason, the rejection of claim 65 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

xiii. Argument for dependent claim 69

Claim 69 depends from claim 22. Accordingly, for the reasons stated above with regard to the rejection of claim 22, the rejection of claim 69 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 69 recites that the communication module includes SS7 signal transfer functionality for transferring SS7 signaling messages between SS7 signaling links. On page 10, the Office Action indicates that column 18, lines 9-14 of Chow disclose the subject matter of claim 69. As stated above with regard to the rejection of claim 65, the only nodes described in column 18, lines 9-14 of Chow are an MSC, an HLR, a gateway, and a network service platform, none of which includes SS7 signal

transfer functionality. An MSC originates, rather than routes messages. An HLR is a database that terminates messages. A gateway is a node that converts messages from one form to another and does not transfer messages between SS7 signaling links. Accordingly, for this additional reason, the rejection of claim 69 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

xiv. Argument for independent claim 79

The rejection of independent claim 79 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification must be reversed because:

1. It would not be obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification; and
2. Even assuming for the sake of argument that it would be obvious to be combine the disclosures as suggested in the Office Action, the combination does not yield all the elements of claim 79.

As stated above with regard to the rejection of claim 1, it would not have been obvious to a person of ordinary skill in the art to combine the disclosures of Chow and Joensuu, which relate to mobility management signaling performed by network signaling elements, with presence registration for stationary PC-based IM subscribers as described in the Background Section of Applicants' Specification. Accordingly, for the same reasons stated above with regard to the rejection of claim 1, it would not be obvious to combine the disclosures of Chow and Joensuu with that of the Background

Section of Applicants' Specification, and the rejection of independent claim 79 as unpatentable over Chow in view of Joensuu and in view of the Background Section of Applicants' Specification should be reversed.

Further, claim 79 recites receiving an SS7 message in response to a telephony related action performed by a target end user to which other end users are subscribed with a presence server, determining based on the SS7 message whether presence registration processing is required, and in response to determining that presence registration processing is required generating a presence registration message and transmitting the presence registration message to the presence server. Claim 79 also recites that the SS7 message comprises an ISUP message.

Thus, claim 79, like claim 1, recites the elements of generating a presence registration message in response to a received SS7 message that was generated in response to a telephony related action performed by a target end user. Claim 79 further recites that the SS7 message as an ISUP message. As stated above with regard to the rejection of claim 1, the combination of Chow, Joensuu, and the Background Section of Applicants' Specification does not disclose, teach, or suggest the generation of a presence registration message in response to a received SS7 message. Accordingly, for the same reasons stated above with regard to the rejection of claim 1, the rejection of claim 79 as unpatentable over Chow in view of Joensuu and further in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 79 recites that the message that triggers the presence registration message is an ISUP message. On page 10, the Office Action references step (a) in Figure 5A of Chow as disclosing such an ISUP message. The ISUP

message generated in step (a) of Figure 5A of Chow relates to a call directed to an LCS subscriber. There is no description anywhere in Chow that presence information for the caller is generated from the ISUP message. In fact, Chow fails to mention any information about the caller, only indicating that the call originates from an originating switch in PSTN 100. (See column 17, lines 53-54 of Chow.) Because Chow fails to mention the caller, Chow cannot disclose that the ISUP message results in the generation of a presence registration message to update presence information for the caller. Accordingly, for this additional reason, the rejection of claim 79 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification should be reversed.

B. Rejection of claims 5, 29, 42, 43, 45-47, 71, and 75 as unpatentable over Chow in view of the Background Section of Applicants' Specification

i. Argument for independent claim 5

The rejection of independent claim 5 as unpatentable over Chow in view of the Background Section of Applicants' Specification must be reversed because:

1. It would not be obvious to a person of ordinary skill in the art to combine the disclosure of Chow and that of the Background Section of Applicants' Specification; and
2. Even assuming for the sake of argument that it would be obvious to combine Chow with the Background Section of Applicants' Specification, the combination fails to yield all of the elements of independent claim 5.

With regard to whether it would be obvious to combine Chow with the Background Section of Applicants' Specification, as stated above with regard to the rejection of claim 1, Chow is directed to signaling that occurs in a wireless network to allow roaming. All of the nodes in Chow are network signaling network nodes to which end users do not have access. The Background Section of Applicants' Specification, however, is directed to performing presence registration for stationary IM clients. The clients reside on stationary user personal computers. It would not be obvious to a person of ordinary skill in the art to combine technology for user clients, such as personal computers, with network signaling nodes, such as HLRs, MSCs, and VLRs as taught by Chow because mobility management signaling and presence for IM are non-analogous art areas. Mobility management signaling relates to signaling performed by a network to determine the geographic location of a roaming subscriber. In contrast, presence registration for IM as disclosed in the Background Section of Applicants' Specification relates to the dissemination of presence information among PC-based IM clients that subscribe to each other. The signaling in Chow is distributed only among network nodes and the signaling in the Background Section of Applicants' Specification is distributed to a presence server for dissemination to user PCs. Accordingly, for the reasons stated above with regard to the rejection of claim 1 and for the reasons stated in this paragraph, it would not be obvious to combine the disclosure of Chow with that of the Background Section of Applicants' Specification. Thus, for this reason alone, the rejection of claim 5 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

Moreover, independent claim 5 recites receiving an SS7 message in response to a telephony related action, intercepting the SS7 message, extracting information from the SS7 message, and using information extracted from the SS7 message to update presence information for the target end user with a presence server. Claim 5 further recites that the SS7 message is a message for updating the status of a target end user in at least one of an HLR or a VLR. On page 13, the Office Action indicates that column 17, lines 59-61 of Chow disclose intercepting the SS7 message and extracting information as claimed. Column 17, lines 59-61 of Chow state as follows:

The PSTN switch **140-3** of PSTN **100** processes the min-based incoming call and sends an ISUP initial address message (IAM) to a PSTN-based MSC **178**.

The above-quoted passage from Chow indicates that one switch generates an IAM message and sends it to another switch. There is no disclosure in Chow that the message is intercepted, i.e., received by a node that is intermediate a sender and a destination. Accordingly, for this additional reason, the rejection of claim 5 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

On page 13, the Office Action also indicates that Figure 4A, reference step c, and column 15, line 67 to column 16, line 9 of Chow disclose using information extracted from the SS7 message to update presence protocol information for the target end user with the presence server. As a preliminary matter, we note that Figure 4A of Chow fails to disclose a presence server. The only network components shown are conventional cellular and cordless network nodes, such as HLR **175-2**, gateway **170**, etc. Step c in Figure 4A of Chow is the IS-41 procedure where a roaming subscriber's location is

registered with HLR **175-2**. None of this signaling involves extracting information from an SS7 message and using that information to update presence protocol information with a target end user with a presence server. As stated above, an HLR is not a presence server because it does not allow subscribers to subscribe to other subscribers. Column 15, line 67- column 16, line 9 of Chow state as follows:

In step c, after successful MS authentication, or if no authentication is required, NSP **145** must register the MS **10** by sending a registration message to the WS HLR **175-2** via gateway **170** to updated the MS's new location for call delivery purposes. The NSP **145** sends a TCP/IP-based message containing the IS-41-like registration information to the TCP/IP to SS7 gateway (GW) **170**. The GW **170** receives the registration message, which also includes the NSP's unique IP address, translates the message into an SS&/TCAP/IS-41 REGNOT message and sends it to the HLR **175-2**.

In the above-quoted passage, Chow discloses the mobility management procedure for informing an IS-41 HLR of a subscriber's current location. There is no mention of a presence server, presence information, or extracting information from an SS7 message and using that information to update presence information for a subscriber. Accordingly, for this additional reason, the rejection of claim 5 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

On pages 13 and 14, the Office Action indicates that Figure 1 and pages 2 and 3 of the Background Section of Applicants' Specification render obvious the presence server recited in element (b) of claim 5. As stated above with regard to the rejection of claim 1, the Background Section of Applicants' Specification discloses a stationary PC-based IM client sending a presence registration message to a presence server when a subscriber logs into his or her IM account. Presence registration for PC-based IM

clients fails to even remotely suggest generating a presence registration message based on SS7 signaling because SS7 signaling is performed by network nodes and presence registration for IM client is performed by user PCs. It would not be obvious to put an IM client as disclosed in the Background Section of Applicants' Specification on a network signaling node as disclosed in Chow because network nodes do not execute user software. Even assuming that it would be obvious to put an IM client as disclosed in the Background Section of Applicants' Specification on a network signaling node as disclosed in Chow, the result of this combination is a network signaling node that generates a presence registration message when a user logs into his or her IM account on the node. Thus, the combination of the Background Section of Applicants' Specification fails to disclose, teach or suggest presence registration generated based on SS7 signaling as claimed in claim 5. Accordingly, for yet another reason, the rejection of claim 5 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

ii. Argument for independent claim 29

The rejection of independent claim 29 as unpatentable over Chow in view of the Background Section of Applicants' Specification must be reversed because:

1. It would not be obvious to a person of ordinary skill in the art to combine the disclosure of Chow and that of the Background Section of Applicants' Specification; and

2. Even assuming for the sake of argument that it would be obvious to combine Chow with the Background Section of Applicants' Specification, the combination fails to yield all of the elements of independent claim 29.

With regard to whether it would be obvious to combine Chow with the Background Section of Applicants' Specification, as stated above with regard to the rejection of claim 1, Chow is directed to signaling that occurs in a wireless network to allow roaming. All of the nodes in Chow are network signaling network nodes to which end users do not have access. The Background Section of Applicants' Specification, however, is directed to performing presence registration for stationary IM clients. The clients reside on user personal computers. It would not be obvious to a person of ordinary skill in the art to combine technology for user clients, such as personal computers, with core network nodes, such as HLRs, MSCs, and VLRs as taught by Chow, because mobility management signaling and presence for IM are non-analogous art areas. Mobility management signaling relates to signaling performed by a network to determine the geographic location of a called subscriber. In contrast, presence registration for IM as disclosed in the Background Section of Applicants' Specification relates to the dissemination of presence information among PC-based IM clients that subscribe to each other. The signaling in Chow is distributed only among network nodes and the signaling in the Background Section of Applicants' Specification is distributed to a presence server for dissemination to end user PCs. Accordingly, for the reasons stated above with regard to the rejection of claim 1 and for the reasons stated in this paragraph, it would not be obvious to combine the disclosure of Chow with that of the Background Section of Applicants' Specification. Thus, for this reason alone,

the rejection of claim 29 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

Even assuming for the sake of argument that the combination of Chow and the Background Section of Applicants' Specification would be obvious, claim 29 recites a presence server message generator that generates a presence-server-compatible message in response to a received SS7 message and that forwards the message to a presence server, which is not disclosed in Chow or the Background Section of Applicants' Specification. Chow discloses only mobility management messages used in cellular and cordless networks, and the Background Section of Applicants' specification discloses presence registration messages generated by stationary IM clients when users log in.

Nevertheless, on page 14, the Office Action states that Figure 4A and column 15, line 66 through column 16, line 9 of Chow disclose a presence server message generator that generates a presence-server-compatible message in response to an SS7 message as claimed in claim 29. Figure 4A of Chow only illustrates IS-41 registration signaling. Similarly, column 15, line 66 – column 16, line 9 of Chow quoted above disclose this same type of signaling, which indicates only the switch with which the roaming subscriber is registered, and nothing about the subscriber's presence information. Accordingly, for this additional reason, the rejection of claim 29 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

iii. Argument for independent claim 42

The rejection of independent claim 42 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed because:

1. It would not be obvious to a person of ordinary skill in the art to combine the disclosures of Chow and that of the Background Section of Applicants' Specification; and
2. Even assuming for the sake of argument that it would be obvious to combine Chow with the Background Section of Applicants' Specification, the combination fails to yield all of the elements of independent claim 42.

With regard to whether it would be obvious to combine Chow with the Background Section of Applicants' Specification, as stated above with regard to the rejection of claim 1, Chow is directed to signaling that occurs in a wireless network to allow roaming. All of the nodes in Chow are network signaling network nodes to which end users do not have access. The Background Section of Applicants' Specification, however, is directed to performing presence registration for stationary IM clients. The clients reside on stationary user personal computers. It would not be obvious to a person of ordinary skill in the art to combine technology for user clients, such as personal computers, with core network nodes, such as HLRs, MSCs, and VLRs as taught by Chow because mobility management signaling and presence for IM are non-analogous art areas. Mobility management signaling relates to signaling performed by a network to determine and track the geographic location of a mobile subscriber. In contrast, presence registration for IM as disclosed in the Background Section of Applicants' Specification relates to the automatic dissemination of presence information

among PC-based IM users that subscribe to each other. The signaling in Chow is distributed only among network nodes and the signaling in the Background Section of Applicants' Specification is distributed to a presence server for dissemination to PC-based IM subscribers. Accordingly, for the reasons stated above with regard to the rejection of claim 1 and for the reasons stated in this paragraph, it would not be obvious to combine the disclosure of Chow with that of the Background Section of Applicants' Specification. Thus, for this reason alone, the rejection of claim 42 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

Even assuming for the sake of argument that it would be obvious to combine the disclosures of Chow and the Background Section of Applicants' Specification, this combination fails to disclose, teach, or suggest formulating an IP message for updating presence information regarding a target end use managed by a presence server in response to a received SS7 message. As stated above with regard to claim 1, the only SS7 messages disclosed in Chow are mobility management messages used for mobility management purposes and not presence purposes. The only presence message disclosed in the Background Section of Applicants' Specification is a message generated by a PC-based IM client when a subscriber logs in. When the Background Section of Applicants' Specification is combined with the mobility management system in Chow, the result is end user PCs with presence-registering IM clients that can locate roaming terminals using the signaling in Chow. Nothing in Chow or the Background Section of Applicants' Specification even remotely suggests triggering presence registration based on a received SS7 message as claimed.

On page 16, the Office Action indicates that Figure 4A, step c and column 15, line 66 through column 16, line 9 of Chow disclose formulating a message for updating presence information regarding a target end user managed by a presence server in response to receiving an SS7 message as claimed. As stated above with regard to the rejection of claim 5, the cited portion of Chow discloses only IS-41 signaling associated with registering a roaming subscriber with an HLR. An HLR is not a presence server and does not store presence information. Accordingly, for this additional reason, the rejection of claim 42 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

On pages 16 and 17, the Office Action indicates that the Background Section of Applicants' Specification discloses automatically generating a presence registration message in response to determining presence registration is required and forwarding the presence registration message to a presence server over an IP network. As stated above, the Background Section of Applicants' Specification discloses generation of a presence registration message by a PC-based IM client. The presence registration message is not generated in response to an SS7 message as claimed and it would not be obvious to modify the SS7 nodes in Chow to generate such a message because the software described in the Background Section of Applicants' Specification is user equipment software which would not be permitted to be located on any of the network nodes disclosed in Chow. Accordingly, for this additional reason, the rejection of independent claim 42 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

iv. Argument for dependent claim 43

Claim 43 depends from claim 42. Accordingly, for the reasons stated above with regard to claim 42, the rejection of claim 43 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 43 recites that the telephony related action is the use of a PSTN telephone to initiate a call from the target end user and the SS7 message from which the presence registration message is generated is an IAM message. On page 17, the Office Action indicates that Figure 5A, step (a) in column 17, lines 58-61 of Chow disclose the subject matter of claim 43. Step (a) of Figure 5A and the corresponding description in column 17 of Chow disclose the generation of an IAM message in response to a call from the PSTN. This is the normal use of the IAM message. There is no mention of the calling subscriber in Chow. Accordingly, the cited portion of Chow cannot disclose the generation of an IAM message in response to a telephony related action from a target end user to which other users are subscribed with a presence server. Accordingly, for this additional reason, the rejection of claim 43 as unpatentable over the Background Section of Applicants' Specification in view of Chow should be reversed.

v. Argument for dependent claim 45

Claim 45 depends from claim 42. Accordingly, for the same reasons stated above with regard to the rejection of claim 42, the rejection of claim 45 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

Moreover, claim 45 recites that the SS7 message from which the presence registration message is generated comprises a TCAP message containing presence information for the target end user. On page 17, the Office Action indicates that column 18, line 14 of Chow discloses such a TCAP message. Column 18, line 14 of Chow indicates that HLR **175-2** sends a TCAP IS-41 route request message to the HNRP **145-1**. The route request message does not contain any information regarding a target subscriber. In fact, it is directed to obtaining location information for a called subscriber. Accordingly, the TCAP message in the cited portion of Chow cannot be the TCAP message that contains presence information for the target end user that performs the telephony related action in claim 45. Accordingly, for this additional reason, the rejection of claim 45 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

vi. Argument for dependent claim 46

Claim 46 depends from claim 42 and states that the telephony related action is activation of a mobile telephone handset by the target end user and the SS7 message from which the presence registration message is generated is an SS7 message for updating the status of the target end user in at least one of an HLR and a VLR. On page 17, the Office Action indicates that column 15, lines 66 through column 16, line 9 disclose the subject matter of claim 46. Column 15, lines 66 through column 16, line 9 of Chow disclose the registration of a mobile station with an HLR. The only messages disclosed are conventional IS-41 registration notification messages. There is no disclosure anywhere of a presence registration message being generated based on this

registration. Accordingly, for this additional reason, the rejection of claim 46 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

vii. Argument for dependent claim 47

Claim 47 depends from claim 42. Accordingly, for the reasons stated above with regard to claim 42, the rejection of claim 47 should be reversed.

Moreover, claim 47 recites that the IP message that is generated in response to the SS7 message comprises a presence protocol message. On page 17, the Office Action indicates that column 18, line 17 of Chow discloses a presence protocol message. Column 18, line 17 of Chow states as follows:

The GW **170** translates the message to an IP message and sends it to the H-NSP **145-1** (ROUTE REQ (MIN)).

The message translated by the gateway **170** in the above-quoted passage is an IS-41 route request message. The message is translated into IP to be carried over an IP network. There is no mention that the message is a presence protocol message. Accordingly, for this additional reason, the rejection of claim 47 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

viii. Argument for dependent claim 71

Claim 71 depends from claim 29. Accordingly, for the reasons stated above with regard to the rejection of claim 29, the rejection of claim 71 should be reversed.

Moreover, claim 71 recites that the steps in claim 29 are performed at an SS7 signal transfer point. Applicants note that claim 71 should recite "the presence registration and routing node" of claim 29, rather than "the method of claim 29," and that the references to "steps (a) - (d)" in claim 29 should be modified to refer to the elements of claim 29." However, Applicants will either amend claim 29 or cancel claim 29 after conclusion of the Appeal. With regard to the rejection of claim 71 in the Office Action, Applicants note that on page 17, the Office Action indicates that column 18, lines 9-14 of Chow disclose a signal transfer point as recited in claim 71. There is no reference to a signal transfer point in the cited portion of Chow. The only nodes referenced are an HLR, a network service platform, and a gateway, none of which is disclosed as being a signal transfer point. Accordingly, for this additional reason, the rejection of claim 71 should be reversed.

ix. Argument for dependent claim 75

Claim 75 depends from claim 42. Accordingly, for the reasons stated above with regard to claim 42, the rejection of claim 75 should be reversed.

Moreover, claim 75 recites that the steps in claim 42 are performed at an SS7 signal transfer point capable of transferring SS7 messages between SS7 signaling links. On page 18, the Office Action again indicates that column 18, lines 9-14 of Chow disclose such a signal transfer point. As states above with regard to the rejection of claim 71, the cited portion of Chow mentions only an HLR, an NSP, and a gateway, none of which is disclosed as being an SS7 signal transfer point. Accordingly, for this

additional reason, the rejection of claim 75 as unpatentable over Chow in view of the Background Section of Applicants' Specification should be reversed.

C. Rejection of claims 3, 4, 7-10, 24, 26, 34, 66, and 70 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification further in view of Lamb

i. Argument for dependent claim 3

Claim 3 depends from claim 1. The rejection of claim 3 should be reversed for the first reason stated above with regard to claim 1 that it would not be obvious to combine the disclosures of Chow and Joensuu with that of Background Section of Applicants' Specification. In addition, as stated above with regard to the rejection of claim 1, the combination of Chow, Joensuu, and the Background Section of Applicants' Specification fails to disclose, teach, or suggest automatically generating a presence registration message in response to an SS7 message as claimed in claim 1. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration messages or the presence protocol at all. Accordingly, for this additional reason, the rejection of claim 3 should be reversed. Moreover, claim 3 recites that the telephony related action the generates the SS7 message that causes generation of the presence registration message is the entering of DTMF digits using a PSTN telephone handset after a call has been established, where the DTMF digits form a code that instruct an end office to formulate an SS7 message. The Office Action indicates that column 9, lines 6-7 of Lamb disclose this feature. Column 9, lines 6-7 of Lamb state as follows:

Prior art public telephony systems are also generally limited to provide in tones called DTMF tones that are used to establish public telephone system call connections.

In the above-quoted passage, Lamb discloses the entry of DTMF tones to establish a call. In contrast, claim 3 recites the entry of such tones after a call has been established to generate an SS7 message. Because the cited portion of Lamb fails to disclose this element, for this additional reason, the rejection of claim 3 should be reversed.

ii. Argument for dependent claim 4

Claim 4 depends from claim 3, which depends from claim 1. For the reasons stated above with regard to claim 1, it would not be obvious to the combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. Further, for all of the reasons stated above with regard to claim 3, the combination of Chow, Joensuu, the Background Section of Applicants' Specification, and Lamb fails to disclose all of the elements of claim 3, from which claim 4 depends. Claim 4 further recites that the message that resulted in the generation of the SS7 message is a TCAP message. On page 20, the Office Action indicates that column 18, line 14 of Chow discloses this message. As stated above, the TCAP message disclosed on column 18, line 14 of Chow is a TCAP message to request routing information for a called party. It does not contain any presence information for the party that initiated the call, i.e., the target end user. Accordingly, for all these reasons, the rejection of claim 4 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

iii. Argument for dependent claim 7

Claim 7 depends from claim 1. As stated above, with regard to the rejection of claim 1, it would not be obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. Moreover, for the reasons stated above with regard to claim 1, the combined disclosures of Chow, Joensuu, and the Background Section of Applicants' Specification fail to disclose, teach, or suggest automatically generating a presence registration message in response to an SS7 message as claimed. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration messages or the presence protocol at all. Further, claim 7 recites that the presence registration message comprises a SIP message. On page 18, the Office Action indicates that column 43, line 2 of Lamb discloses the generation of a SIP message that is also a presence registration message as claimed in claim 7. Column 43, line 2 of Lamb states as follows:

Another protocol that can be used to support interface **305-3** is a SIP protocol noted above and extended by a protocol called "PINT." The PINT protocol provides a limited set of messages that can be sent from a computer on an IP network to a telephone switch on a PSTN to provide rudimentary control of the PSTN telephone switch device.

The above-quoted passage from Lamb mentions the SIP protocol and an extension of that protocol to control a PSTN phone from a computer on an IP network. There is no mention of any SIP protocol messages, not to mention a SIP protocol message that is also presence registration message as claimed in claim 7. Accordingly, for all of these reasons, the rejection of claim 7 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

iv. Argument for dependent claim 8

Claim 8 depends from claim 1. For the reasons stated above with regard to the rejection of claim 1, it would not be obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. Further, as stated above with regard to the rejection of claim 1, the combination of Chow, Joensuu, and the Background Section of Applicants' Specification fails to disclose, teach, or suggest automatically generating a presence registration message in response to an SS7 message as claimed in claim 1. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration messages at all. Moreover, claim 8 recites that the presence registration message comprises an instant messaging and presence protocol (IMPP) message. On page 18, the Office Action indicates that column 45, lines 10-11 of Lamb disclose such a message. Column 45, lines 10-11 of Lamb state as follows:

The message might be perhaps a call application **202** message **240**, a call signaling message **230**, an instant message from another user agent **301**, or an email message destined for a user agent **301** as specified in the message.

The above-quoted passage mentions an instant message from a user, rather than an IMPP message to a presence server as claimed in claim 8. The instant message referred to in the quoted passage of Lamb contains user information. In contrast, the IMPP message claimed in claim 8 contains presence registration information and is sent to a presence server. Accordingly, for all these reasons, the rejection of claim 8 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

v. Argument for dependent claim 9

Claim 9 depends from claim 1. For the reasons stated above with regard to the rejection of claim 1, it would not be obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. Further, as stated above with regard to the rejection of claim 1, the combination of Chow, Joensuu, the Background Section of Applicants' Specification fails to disclose, teach, or suggest automatically generating a presence registration message in response to receiving an SS7 message as claimed. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration messages or the presence protocol at all. Moreover, claim 9 recites, in response to receiving the SS7 message, a second message is sent to an accounting and billing system. Thus, claim 9 when combined with claim recites that two messages are generated in response to the received SS7 message, i.e., the presence registration message and another message that is sent to a billing system. On page 18, the Office Action indicates that column 14, lines 52-61 of Chow disclose the subject matter of claim 9. Column 14, lines 52-61 of Lamb state as follows:

In another arrangement, the call signaling message received from the connection based network by the user agent specifies a status which indicates success of the at least one call connection between telephony device on the connection based network and the user agent performs the step of updating accounting information related to the user agent based on the success of the at least one call connection. This allows the user agent to track phone call accounting and time information for call connections made to the user telephony devices associated with the user assigned to the user agent. Updating accounting information and processing can include charging the call to one or more calling cards, for example, or can include selecting a preferred long distance carrier to which the call connection should be billed.

The above-quoted passage from Chow discloses accounting functions performed by a user agent. In the context of the above-quoted paragraph, the user agent is the accounting and billing system. Accordingly, the quoted passage cannot disclose, in response to receiving the SS7 message, sending a second message to an accounting and billing system as claimed in claim 9. Thus, for all these reasons, the rejection of claim 9 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

vi. Argument for dependent claim 10

Claim 10 depends from claim 9. Thus, for all the reasons stated in the preceding paragraph with regard to claim 9, the rejection of claim 10 should be reversed. Moreover, claim 10 recites that the second message that is sent to the accounting and billing system is a copy of the SS7 message. On page 20, the Office Action indicates that column 18, lines 9-11 of Chow disclose generating a copy of an SS7 message as claimed in claim 9. Column 18, lines 9-11 of Chow state as follows:

Since the MSC **178** does not have the min-based user currently registered, the MSC **178** sends a SS7/TCAP/IS-41 location request (LOCREQ) message to HLR **175-2**.

The quoted passage from Chow mentions an IS-41 location request message sent from an MSC. There is no message copying disclosed in the quoted passage. Accordingly, for all of these reasons, the rejection of claim 10 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

vii. Argument for dependent claim 24

Claim 24 depends from claim 22 and recites that the presence registration message comprises a SIP message. As stated above with regard to the rejection of claim 22, it would not be obvious to a person of ordinary skill in the art to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. Moreover, claim 22 recites the automatic generation of a presence registration message in response to a received SS7 message and, as stated above, the combination of Chow, Joensuu, the Background Section of Applicants' Specification, and Lamb fails to disclose, teach, or suggest the generation of a presence registration message in response to receiving an SS7 message. Further, claim 24 recites that the presence registration message comprises a SIP message. On page 19, the Office Action indicates that column 43, line 2 of Chow discloses the subject matter of claim 24. As stated above, claim 43, line 2 of Chow mentions the SIP protocol in general to control a PSTN telephone and fails to mention any specific SIP messaging, not to mention a SIP based presence registration message. Accordingly, for all these reasons, the rejection of claim 24 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification in view of Lamb should be reversed.

viii. Argument for dependent claim 26

Claim 26 depends from claim 22 and recites that the presence registration message comprises an IMPP message. As stated above with regard to the rejection of claim 22, it would not be obvious to combine the disclosures of Chow and Joensuu with

that of the Background Section of Applicants' Specification. Further, as also stated above with regard to claim 22, the combination of Chow, Joensuu, the Background Section of Applicants' Specification, and Lamb fails to disclose, teach, or suggest the automatic generation of a presence registration message in response to a received SS7 message. Further, claim 26 recites that the presence registration message is an IMPP message. On page 19, the Office Action indicates that column 45, lines 10-11 of Lamb disclose an IMPP message as claimed in claim 26. As stated above, the quoted portion of Chow discloses an instant message was sent from one user to another user, rather than an IMPP message that is also a presence registration message that is sent to a presence server. Accordingly, for these reasons, the rejection of claim 26 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

ix Argument for dependent claim 34

Claim 34 depends from claim 22 and recites means for generating an accounting message based on a received SS7 message and the presence server compatible message and an accounting and billing subsystem for storing accounting information based on the accounting message. As stated above with regard to the rejection of claim 22, it would not be obvious to combine the disclosures of Chow and Joensuu with the Background Section of Applicants' Specification. Moreover, as also stated above with regard to the rejection of claim 22, the combination of Chow, Joensuu, and the Background Section of Applicants' Specification fails to disclose automatically generating presence registration message in response to a received SS7 message as

claimed. Further, Lamb fails to mention a presence registration message or the presence protocol at all. On page 19, the Office Action indicates that column 14, lines 52-61 of Lamb disclose the subject matter of claim 34. As stated above with regard to the rejection of claim 9, the quoted portion of Chow discloses the generation of billing information by the billing system. There is no mention that the billing system generates a message and sends it elsewhere or that the message is based on SS7 message and a presence server compatible message as claimed in claim 34. Accordingly, for all of these reasons, the rejection of claim 34 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

x. Argument for dependent claim 66

Claim 66 depends from claim 1. As stated above with regard to the rejection of claim 1, it would not be obvious to a person of ordinary skill in the art to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. In addition, as stated above with regard to the rejection of claim 1, the combination of Chow, Joensuu, and the Background Section of Applicants' Specification fails to disclose, teach, or suggest generating a presence registration message in response to a received SS7 message as claimed. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration messages or the presence protocol at all. Moreover, claim 66 recites that the presence information that is in the presence registration message includes information usable by the user subscribed to the target end user for contacting the target end user via the instant messaging

protocol. On page **19**, the Office Action indicates that column 45, lines 10-11 of Chow disclose subject matter of claim 70. Column 45, lines 10-11 of Chow disclose that end user sends an instant message to another user. There is no mention in this passage of either user obtaining presence information for contacting another user via the presence protocol. Accordingly, for these reasons, the rejection of claim 66 as unpatentable over Chow in view of Joensuu and in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

xi. Argument for dependent claim 70

Claim 70 depends from claim 22. As stated above with regard to the rejection of claim 22, it would not be obvious to combine the disclosures of Chow and Joensuu with that of the Background Section of Applicants' Specification. Further, as stated above with regard to the rejection of claim 22, the combination of Chow, Joensuu, and the Background Section of Applicants' Specification fails to disclose, teach, or suggest the generation of a presence registration message in response to a received SS7 message as claimed. Lamb likewise lacks such disclosure, teaching or suggestion. Lamb fails to mention presence registration or the presence protocol at all. Further, claim 70 recites that the messaging protocol for which the presence information contains contact information is an instant message protocol. On page 19, the Office Action indicates that column 45, lines 10-11 of Chow disclose the subject matter of claim 70. Column 45, lines 10-11 of Chow disclose one user sending an instant message to another user. The cited passage fails to mention the use of presence information to provide contact information for a user to contact another user via the instant message protocol.

Accordingly, for all of these reasons, the rejection of claim 70 as unpatentable over Chow in view of Joensuu in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

D. Rejection of claims 44, 48-50, 72, and 76 as unpatentable over Chow in view of the Background Section of Applicants' Specification in view of Lamb

i. Argument for dependent claim 44

Claim 44 depends from claim 42. As stated above with regard to the rejection of claim 42, it would not be obvious to a person of ordinary skill in the art to combine the disclosure of Chow and the Background Section of Applicants' Specification. Further, as stated above with regard to the rejection of claim 42, the combination of Chow and the Background Section of Applicants' Specification fails to disclose, teach, or suggest the automatic generation of a presence registration message in response to a received SS7 message as claimed in claim 42. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration or the presence protocol at all. Further, claim 44 recites that the telephony related action includes entering DTMF digits using a PSTN telephone after a call has been established, where the DTMF digits form a code for instructing an end office to formulate the SS7 message. On page 20, the Office Action indicates that column 9, lines 6-7 of Lamb disclose entering such DTMF digits. However, column 9, lines 6-7 of Lamb disclose the use of DTMF digits to establish a call. There is no mention of entering DTMF digits after a call has been established to generate an SS7 message. Accordingly, for all these reasons, the

rejection of claim 44 as unpatentable over Chow in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

ii. Argument for dependent claim 48

Claim 48 depends from claim 42. As stated above with regard to the rejection of claim 42, it would not be obvious to a person of ordinary skill in the art to combine the disclosures of Chow and the Background Section of Applicants' Specification. Further, for the reasons stated above in the preceding paragraph with regard to the rejection of claim 44, the combination of Chow, the Background Section of Applicants' Specification, and Lamb fails to disclose, teach, or suggest automatically generating a presence registration message in response to a received SS7 message. Moreover, claim 42 recites that the IP message that carries the presence information comprises a SIP message. On page 20, the Office Action indicates that column 43, line 2 of Lamb discloses a SIP message as claimed in claim 48. Column 43, line 2 of Lamb mentions the SIP protocol and its use to control the PSTN telephone from a computer in an IP network. There is no mention of the use of the SIP protocol to carry a presence registration as claimed. Accordingly, for all these reasons, the rejection of claim 48 as unpatentable over Chow in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

iii. Argument for dependent claim 49

Claim 49 depends from claim 42. For the reasons stated above with regard to the rejection of claim 42, it would not be obvious to combine the disclosures of Chow

and the Background Section of Applicants' Specification. Further, as stated above with regard to the rejection of claim 48 in the preceding paragraph, the combination of Chow, the Background Section of Applicants' Specification, and Lamb fails to disclose, teach, or suggest automatically generating a presence registration message in response to a received SS7 message as claimed in claim 42. Further, claim 49 recites that the IP message that carries the presence registration information is an IMPP message. On page 20, the Office Action indicates that column 45, lines 10-11 disclose an IMPP message as claimed in claim 49. Column 45, lines 10-11 of Lamb disclose one user sending an instant message to another user and fail to disclose the use of an IMPP message to carry presence registration information to a presence server as claimed. Accordingly, for all these reasons, the rejection of claim 49 as unpatentable over Chow in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

iv. Argument for dependent claim 50

Claim 50 depends from claim 42. As stated above with regard to the rejection of claim 42, it would not be obvious to combine the disclosure of Chow and the Background Section of Applicants' Specification. Further, the combination of Chow, the Background Section of Applicants' Specification, and Lamb fails to disclose, teach, or suggest automatically generating a presence registration message in response to a received SS7 message as claimed in claim 42. Moreover, claim 42 recites generating an accounting message in response to at least one of the SS7 message and the IP message that carries the presence registration information and forwarding the

accounting message to an accounting and billing subsystem. On page 21, the Office Action indicates that column 14, lines 52-61 of Lamb disclose the subject matter of claim 50. However, the quoted passage from Lamb discloses a user agent that receives a message and functions as the billing system. There is no mention that the user agent generates an accounting message or sends that message to an accounting and billing subsystem because the user agent is the accounting and billing subsystem. Accordingly, for all of these reasons, the rejection of claim 50 as unpatentable over Chow in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

v. Argument for dependent claim 72

Claim 72 depends from claim 29. As stated above with regard to the rejection of claim 29, it would not be obvious to combine the disclosure of Chow with that of the Background Section of Applicants' Specification. Further, as stated above with regard to the rejection of claim 29, the combination of Chow and the Background Section of Applicants' Specification fails to disclose, teach, or suggest automatically generating a presence registration message in response to a received SS7 message as claimed in claim 29. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration or the presence protocol at all. Further, claim 72 recites that the presence information and the presence registration message includes information usable by the users subscribed to the target end user for contacting the target end user via an instant message protocol. On page 21, the Office Action indicates that column 35, lines 10-11 of Lamb disclose the subject matter of claim 72. The cited portion of

Lamb discloses one user sending an instant message to another user without disclosing if or how either user obtains presence information to contact the other user. Accordingly, for all these reasons, the rejection of claim 72 as unpatentable over Chow in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

vi. Argument for dependent claim 76

Claim 76 depends from claim 42. As stated above with regard to the rejection of claim 42, it would not be obvious to combine the disclosure of Chow with that of the Background Section of Applicants' Specification. Further, the combination of Chow and the Background Section of Applicants' Specification fails to disclose, teach, or suggest automatically generating a presence registration message in response to receiving an SS7 message as claimed in claim 42. Lamb likewise lacks such teaching or suggestion. Lamb fails to mention presence registration or the presence protocol at all. Further, on page 21, the Office Action indicates that column 45, lines 10-11 of Lamb disclose the subject matter of claim 76. Claim 76 recites that the presence information carried in the presence registration message includes information usable by end users who are subscribed to the target end user for contacting the target end user via an instant messaging protocol. The cited portion of Lamb discloses one user sending an instant message to another user without indicating how either user obtains contact or presence information for the other user. Accordingly, for all these reasons, the rejection of claim 76 as unpatentable over Chow in view of the Background Section of Applicants' Specification and further in view of Lamb should be reversed.

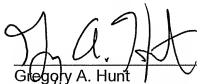
For the foregoing reasons, it is respectfully submitted that the Examiner's rejections of claims 1-10, 22-34, 42-50, 61-66, 69-72, 75, 76, and 79 should be reversed.

Respectfully submitted,

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1322/40/2 GAH/sda

VIII. Claims Appendix

1. A method for updating presence information regarding a target end user managed by a presence server based on information derived from a telephony-related action, the method comprising:
 - (a) receiving a signaling system seven (SS7) message in response to a telephony-related action performed by a target end user to which other end users are subscribed with the presence server;
 - (b) determining, based on the SS7 message, whether presence registration processing is required;
 - (c) in response to determining that presence registration processing is required, automatically generating a presence registration message including presence information usable by the presence server for automatically indicating to the end users who are subscribed to the target end user with the presence server a presence status for the target end user, wherein the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities; and
 - (d) transmitting the presence registration message to the presence server over an IP network.
2. The method of claim 1 wherein the telephony-related action includes dialing a called party telephone number utilizing a PSTN telephone to initiate a call from the target end user to the called party telephone number and the signaling system seven message is an IAM message.

3. The method of claim 1 wherein the telephony-related action includes entering DTMF digits using a PSTN telephone handset after a call has been established, the DTMF digits forming a code for instructing an end office to formulate the SS7 message.
4. The method of claim 3 wherein the SS7 message is a transaction capabilities application part (TCAP) message containing presence information for the target end user.
5. A method for updating presence information regarding a target end user with a presence server based on information derived from a signaling message relating to a telephony-related action performed by the target end user, the method comprising:
 - (a) receiving a signaling system 7 (SS7) message in response to a telephony-related action performed by a target end user, wherein the telephony-related action is the activation or change in location of a mobile telephone handset and the SS7 message is a message for updating the status of the target end user in at least one of a home location register (HLR) and a visitor location register (VLR); and
 - (b) intercepting the SS7 message, extracting information from the SS7 message, and using the information extracted from the SS7 message to update presence information for the target end user with the presence server, wherein the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities, the presence information including information usable by the

presence server for automatically indicating to end users who are subscribed to the target end user a presence status for the target end user.

6. The method of claim 1 wherein automatically generating a presence registration message includes automatically generating a presence protocol message.
7. The method of claim 1 wherein automatically generating a presence registration message includes automatically generating a session initiation protocol (SIP) message.
8. The method of claim 1 wherein automatically generating a presence registration message includes automatically generating an instant messaging and presence protocol (IMPP) message.
9. The method of claim 1 comprising, in response to receiving the SS7 message, sending a second message to an accounting and billing system.
10. The method of claim 9 wherein the second message is a copy of the SS7 message.
- 11-21. Canceled
22. A presence registration and routing node for updating presence information regarding an end user with a presence server, the presence registration and routing node comprising:
 - (a) a communication module for receiving an SS7 message relating to a target end user to which other end users are subscribed with the presence server and for determining whether presence registration processing is required for the SS7 message; and

- (b) a presence server message generator for, if the communication module determines that presence registration processing is required, for receiving a copy of the SS7 message and for automatically generating a presence registration message including presence information usable by the presence server for automatically indicating to the end users subscribed to the target end user with the presence server a presence status for the target end user, wherein the presence server message generator is adapted to forward the presence registration message to the presence server, and wherein the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities.
23. The presence registration and routing node of claim 22 comprising an advanced database communication module for encapsulating the presence registration message in an IP packet and transmitting the IP packet to the presence server over an IP network.
24. The presence registration and routing node of claim 22 wherein the presence registration message is a session initiation protocol (SIP) message.
25. The presence registration and routing node of claim 22 wherein the presence registration message is a presence protocol message.
26. The presence registration and routing node of claim 22 wherein the presence registration message is an instant messaging and presence protocol (IMPP) message.

27. The presence registration and routing node of claim 22 wherein the SS7 message is an ISDN user part (ISUP) message.
28. The presence registration and routing node of claim 22 wherein the SS7 message is a transaction capabilities application part (TCAP) message.
29. A presence registration and routing node for updating presence information regarding an end user with a presence server, the presence registration and routing node comprising:
 - (a) a communication module for receiving an SS7 message from an SS7 network; and
 - (b) a presence server message generator for generating, based on the SS7 message, a presence-server-compatible message for updating presence information regarding a target end user with the presence server, the presence information including a presence status for the target end user, wherein the presence server message generator is adapted to forward the presence-server-compatible message to the presence server, and wherein the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities.
30. The presence registration and routing node of claim 22 comprising a presence server database operatively associated with the presence server message generator for receiving the presence-server-compatible message and for updating the presence information in response to the presence-server-compatible message.

31. The presence registration and routing node of claim 30 wherein the presence server database is located internal to the presence registration and routing node.
32. The presence registration and routing node of claim 30 wherein the presence server database is located external to the presence registration and routing node.
33. The presence registration and routing node of claim 22 wherein the presence server message generator is adapted to receive presence queries, forward the presence queries to a presence server database, and receive responses from the presence server database.
34. The presence registration and routing node of claim 22 comprising:
 - (a) means for generating an accounting message based on at least one of the SS7 message received by the communication module and the presence-server-compatible message; and
 - (b) an accounting and billing system for storing accounting information based on the accounting message.

35-41. Canceled

42. A computer program product comprising computer-executable instructions embodied in a computer-readable medium for performing steps comprising:
 - (a) receiving a signaling system seven (SS7) message in response to a telephony-related action performed by a target end user;
 - (b) in response to receiving the SS7 message, formulating an internet protocol (IP) message for updating presence information regarding the target end user managed by a presence server, the presence information including information usable by the presence server for automatically

indicating to end users subscribed to the target end user with the presence server a presence status for the target end user, wherein the presence server comprises a server that manages presence information for a collection of entities and subscriptions to those entities; and

(c) transmitting the IP message to the presence server over an IP network.

43. The computer program product of claim 42 wherein the telephony-related action includes dialing a called party telephone number utilizing a PSTN telephone to initiate a call from the target end user to the called party telephone number and the signaling system seven message is an IAM message.
44. The computer program product of claim 42 wherein the telephony-related action includes entering DTMF digits using a PSTN telephone handset after a call has been established, the DTMF digits forming a code for instructing an end office to formulate the SS7 message.
45. The computer program product of claim 42 wherein the SS7 message is a transaction capabilities application part (TCAP) message containing presence information for the target end user.
46. The computer program product of claim 42 wherein the telephony-related action is the activation of a mobile telephone handset and the SS7 message is a message for updating the status of the target end user in at least one of a home location register (HLR) and a visitor location register (VLR).
47. The computer program product of claim 42 wherein formulating an IP message includes formulating a presence protocol message.

48. The computer program product of claim 42 wherein formulating an IP message includes formulating a session initiation protocol (SIP) message.
49. The computer program product of claim 42 wherein formulating an IP message includes formulating an instant messaging and presence protocol (IMPP) message.
50. The computer program product of claim 42 comprising generating an accounting message in response to at least one of the SS7 message and the IP message and forwarding the accounting message to an accounting and billing subsystem.
- 51-60. Canceled
61. The method of claim 1 comprising routing the SS7 message to its intended destination.
62. The presence registration and routing node of claim 22 wherein the communication module is adapted to route the SS7 message to its intended destination.
63. The method of claim 1 wherein the telephony related action comprises activation of the end user's mobile telephone and wherein the presence information indicates that the target end user is currently reachable to receive messaging protocol communications via the target end user's mobile telephone.
64. The method of claim 1 wherein the telephony related action comprises entering a predetermined code via the target end user's wireline telephone and wherein the presence information indicates that the target end user is currently reachable via the end user's wireline telephone.

65. The method of claim 1 wherein steps (a)-(e) are performed at an SS7 signal transfer point capable of transferring SS7 signaling messages between SS7 signaling links.
66. The method of claim 1 wherein the presence information includes information usable by the users subscribed to the target end user for contacting the target end user via an instant messaging protocol.
- 67-68. Canceled
69. The presence registration and routing node of claim 22 wherein the communication module includes SS7 signal transfer functionality for transferring SS7 signaling messages between SS7 signaling links.
70. The presence registration and routing node of claim 22 wherein the messaging protocol comprises an instant message protocol.
71. The method of claim 29 wherein steps (a)-(d) are performed at an SS7 signal transfer point capable of transferring SS7 signaling messages between SS7 signaling links.
72. The presence registration and routing node of claim 29 wherein the presence information includes information usable by the users subscribed to the target end user for contacting the target end user via an instant message protocol.
- 73-74. Canceled
75. The computer program product of claim 42 wherein steps (a)-(c) are performed on an SS7 signal transfer point capable of transferring SS7 messages between SS7 signaling links.

76. The computer program products of claim 42 wherein the presence information includes information usable by the users subscribed to the target end user for contacting the target end user via an instant messaging protocol.

77-78. Canceled

79. A method for updating presence information regarding a target end user managed by a presence server based on information derived from a telephony-related action, the method comprising:

- (a) receiving a signaling system seven (SS7) message in response to a telephony-related action performed by a target end user to which other end users are subscribed with the presence server, wherein the SS7 message comprises an ISDN user part (ISUP) message;
- (b) determining, based on the SS7 message, whether presence registration processing is required;
- (c) in response to determining that presence registration processing is required, automatically generating a presence registration message including presence information usable by the presence server for automatically indicating to the end users who are subscribed to the target end user with the presence server a presence status for the target end user; and
- (d) transmitting the presence registration message to the presence server over an IP network.

IX. Evidence Appendix

None

X. Related Proceedings Appendix

None